

Adrian C. Lo

Curriculum Vitae

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Personal Information

Date of Birth June 30, 1984
Nationality Belgian

Education

- Sep 2015 **Summer School on Emotional Learning and Memory in Health and Psychopathology**, *Center for Excellence on Generalization in Health and Psychopathology*, Belgium.
- Jul 2014 **Neuroscience Summer Program**, *RIKEN Brain Science Institute*, Japan.
- Jun 2013 **PhD in Psychology**, *KU Leuven*, Belgium.
Specialized in Alzheimer's Disease: Pre-Clinical Behavioral Pharmacology
- Aug 2008 **Master in Psychology - Theory & Research**, *KU Leuven*, Belgium.
Specialized in Behavioral Neuroscience

PhD Thesis

Title *Mouse models of Alzheimer's disease - behavioral validity and use in preclinical therapy evaluation*

Supervisors Professor Rudi D'Hooge, Dr. Zsuzsanna Callaerts-Vegh & Professor Bart De Strooper
[\[link to PhD thesis\]](#)

Master Thesis

Title *The relationship between working memory function and (non-)focal search processes in prospective memory: a function of task complexity*

Supervisor Professor Géry van Outryve d'Ydewalle

Certificates

FELASA C
e-Learning R programming

Experience

Vocational

- Feb 2016 – **Postdoctoral research associate**,
present DEPARTEMENT OF FUNDAMENTAL NEUROSCIENCES, University of Lausanne, Switzerland.
Description:
"Characterization of Fxr2 KO mice: a dual model for intellectual disabilities and epilepsy."
Project supervisor:
Professor Claudia Bagni
- Feb 2016 – **Postdoctoral research associate**,
Jun 2016 LABORATORY FOR MOLECULAR NEUROBIOLOGY, VIB - KU Leuven, Belgium.
Description:
"Characterization of Fxr2 KO mice: a model resistant to epileptic seizures."
Project supervisor:
Professor Claudia Bagni
- Apr 2014 – **Postdoctoral research associate**,
Dec 2015 CENTER FOR EXCELLENCE ON GENERALIZATION IN HEALTH AND PSYCHOPATHOLOGY, KU Leuven, Belgium.
CREA project:
"Learning and memory reconnected: the effect of retrieval manipulations on selective conditioning."
Project supervisor:
Professor Bram Vervliet
- Jun 2013 – **Postdoctoral research associate**,
Mar 2014 LABORATORY FOR BIOLOGICAL PSYCHOLOGY, KU Leuven, Belgium.
GOA project:
"Neuroplastic mechanisms that underlie the involvement of prefrontal cortex and hippocampus in extinction, reversal, and category learning."
Project supervisor:
Professor Rudi D'Hooge
- Oct 2008 – **PhD student**,
Jun 2013 LABORATORY FOR BIOLOGICAL PSYCHOLOGY, KU Leuven, Belgium.
PhD project:
"Mouse models of Alzheimer's disease - behavioral validity and use in preclinical therapy evaluation."
Project supervisors:
Professor Rudi D'Hooge, Dr. Zsuzsanna Callaerts-Vegh & Prof. Bart De Strooper

Apr 2011 – **Training,**

May 2011 INSTITUTE OF ANATOMY, University of Zürich, Switzerland.

Project description:

"Extensive training in IntelliCage protocol design programming. The IntelliCage is an automated home-cage where mouse behavior and cognition can be assessed with minimal experimenter interference."

[\[link for more details on IntelliCage\]](#)

Project supervisors:

Professor David Wolfer & Dr. Elisabetta Vannoni

Oct 2008 – **MEMOSAD consortium.**

Dec 2011 Description:

"Memory loss in Alzheimer's disease: underlying mechanisms and therapeutic targets."

[\[link for more details on MEMOSAD consortium\]](#)

Sep 2007 – **Internship,**

Mar 2008 LABORATORY FOR BIOLOGICAL PSYCHOLOGY, KU Leuven, Belgium.

Project description:

"Visual spatial learning in C57BL/6J mice: proximal and distal cue-related learning in the Barnes maze and radial arm maze. The involvement of dorsal hippocampus in the Barnes maze."

Project supervisors:

Professor Rudi D'Hooge, Dr. Ilse Gantois

[Teaching experience](#)

Sep 2015 Workshop at Summer School on Emotional Learning and Memory in Health and Psychopathology, KU Leuven, Belgium

Subject: the use of rodent models in fear conditioning, learning and memory

2013–2015 Master thesis supervision: Liesbet Swennen (Clinical Psychology - Adults: KU Leuven, Belgium)

The effects of 5-HT4R agonist pretreatment on spatial learning in APPPS1-21 mice, a model for Alzheimer's disease.

2012–2014 Master thesis supervision: Lize Hermans (Theory & Research: KU Leuven, Belgium)
Neuropsychological profile of an Alzheimer mouse model at an advanced age.

2012–2014 Master thesis supervision: Stefanie Deblie (Clinical Psychology - Adults: KU Leuven, Belgium)

Increased motor activity and impulsivity in a mouse model of Alzheimer's disease.

2012–2014 Master thesis supervision: Daniëlle Ceuppens (Labor Psychology: KU Leuven, Belgium)

Gender differences in Alzheimer's disease: observations of behavioral symptoms in the APP/PS1-21 mouse model.

2012–2013 B-KUL-P0M20B: How to use SPSS for basic data manipulation and interpret SPSS output

Bachelor Psychology

2011–2013 Master thesis supervision: Quirin Dalemans (Theory & Research: KU Leuven, Belgium)

Measuring motor impulsivity in an Alzheimer mouse model, an IntelliCage study.

Miscellaneous

Apr 2008 – **Job student,**

Jul 2008 CENTER FOR CULTURAL AND SOCIAL PSYCHOLOGY, KU Leuven, Belgium.

Job description:

Questionnaire data input

Publications

2017

... Rajan N, **Lo AC**, Achsel T, Fernández E, Fiers M, Buzzi A, Simonato M, & Bagni C (in preparation). Genome-wide identification of FXR2P targets highlight its role in activity-dependent translation. *EMBO J*.

- * Briz V*, Restivo L*, Pasciuto E*, Juczewski K, Mercaldo V, **Lo AC**, Baatsen P, Gunko NV, Borreca A, Girardi T, Luca R, Nys J, Poorthuis R, Mansevelde H, Fisone G, Ammassari-Teule M, Arckens L, Krieger P, Meredith R & Bagni C (accepted). The non-coding RNA BC1 regulates experience-dependent structural plasticity and learning. *Nature Communications*. IF: 11.329 * authors contributed equally
[\[link to article\]](#)

2016

- * Latif-Hernandez A, Shah D, Ahmed T, **Lo AC**, Callaerts-Vegh Z, Van der Linden A, Balschun D, & D'Hooge R (2016). Quinolinic acid injection in mouse model prefrontal cortex affects reversal learning abilities, cortical connectivity and hippocampal synaptic plasticity. *Sci Rep*. IF: 5.228
[\[link to article\]](#)
- * Verreet T, Rangarajan JR, Quintens R, Verslegers M, **Lo AC**, Govaerts K, Neefs M, Leysen L, Baatout S, Maes F, Himmelreich U, D'Hooge R, & Moons L (2016). Persistent impact of in utero irradiation on mouse brain structure and function characterized by MR imaging and behavioural analysis. *Frontiers in Behavioral Neuroscience*. IF: 3.270
[\[link to article\]](#)

2015

- * Huang Y, Skwarek-Maruszewska A, Horre K, Vandeweyer E, Wolfs L, Snellinx A, Saito T, Radaelli E, Corthout N, Colombelli J, **Lo AC**, Van Aerschot L, Callaerts-Vegh Z, Trabzuni D, Bossers K, Verhaagen J, Ryten M, Munck S, D'Hooge R, Swaab DF, Hardy J, Saido TC, De Strooper B, & Thathiah A (2015). Loss of GPR3 reduces the amyloid plaque burden and improves memory in Alzheimer's disease mouse models. *Science Translational Medicine*. IF: 15.843
[\[link to article\]](#)
- * Dionisio PA, Amaral JD, Ribeiro MF, **Lo AC**, D'Hooge R, & Rodrigues CMP (2015). Amyloid-beta pathology is attenuated by tauroursodeoxycholic acid treatment in APP/PS1 mice after disease onset. *Neurobiology of Aging* **36**: 228-240. IF: 6.189
[\[link to article\]](#)

2014

- * **Lo AC**, De Maeyer JH, Vermaercke B, Callaerts-Vegh Z, Schuurkes JA, & D'Hooge R (2014). SSP-002392, a new 5-HT₄ receptor agonist, dose-dependently reverses scopolamine-induced learning and memory impairments in C57Bl/6 mice. *Neuropharmacology* **85**: 178-189. IF: 4.114
[\[link to article\]](#)

2013

- * **Lo AC**, Tesseur I, Scopes DIC, Nerou E, Callaerts-Vegh Z, Vermaercke B, Treherne JM, De Strooper B, & D'Hooge R (2013). Dose-dependent improvements in learning and memory in APPPS1-21 transgenic mice treated with the orally active A β toxicity inhibitor SEN1500. *Neuropharmacology* **75**: 458-466. IF: 4.114
[\[link to article\]](#)
- * Van der Jeugd A, Vermaercke B*, Derisbourg M*, **Lo AC***, Hamdane M, Blum D, Buée L, & D'Hooge R (2013). Progressive age-related cognitive decline in the tau mice. *Journal of Alzheimers Disease* **37**: 777-788. IF: 4.174 * authors contributed equally
[\[link to article\]](#)
- * **Lo AC**, Iscru E, Blum D, Tesseur I, Callaerts-Vegh Z, Buée L, De Strooper B, Balschun D, & D'Hooge R (2013). Amyloid and tau neuropathology differentially affect prefrontal synaptic plasticity and cognitive performance in mouse models of Alzheimer's disease. *Journal of Alzheimers Disease* **37**: 109-125. IF: 4.174
[\[link to article\]](#)
- * Tesseur I*, **Lo AC***, Roberfroid A, Dietvorst S, Van Broeck B, Borgers M, Gijssen H, Moechars D, Mercken M, Kemp J, D'Hooge R, & De Strooper B (2013). Comment on 'ApoE-directed therapeutics rapidly clear β -amyloid and reverse cognitive deficits in AD mouse models'. *Science* **340**: 924-e. IF: 31.2 * authors contributed equally
[\[link to article\]](#)
- * Simoes AES, Amaral JD, Nunes AF, Gomes, SE, Pereira DM, Rodrigues PM, **Lo AC**, D'Hooge R, Steer CJ, Thibodeau SN, Borralho PM, & Rodrigues CMP (2013). Efficient recovery of proteins from multiple source samples after trizol or trizol-LS RNA extraction and long-term storage. *BMC genomics*. IF: 4.07
[\[link to article\]](#)
- * Tesseur I, Pimenova AA, **Lo AC**, Ciesielska M, Lichtenthaler SF, De Maeyer JH, Schuurkes JA, D'Hooge R, & De Strooper B (2013). Chronic 5-HT₄ receptor activation decreases A β production and deposition in hAPP/PS1 mice. *Neurobiology of Aging* **34**: 1779-1789. IF: 6.189
[\[link to article\]](#)
- * **Lo AC**, Callaerts-Vegh Z, Nunes AF, Rodrigues CMP, & D'Hooge R (2013). Tau-roursodeoxycholic acid (TUDCA) supplementation prevents cognitive impairment and amyloid deposition in APP/PS1 mice. *Neurobiology of Disease* **50**: 21-29. IF: 5.624
[\[link to article\]](#)

- * Ramalho RM, Nunes AF, Dias RB, Amaral JD, **Lo AC**, D'Hooge R, Sebastiao AM, & Rodrigues CMP (2013). Tauroursodeoxycholic acid suppresses amyloid β -induced synaptic toxicity in vitro and in APP/PS1 mice. *Neurobiology of Aging* **34**: 551-561. IF: 6.189

[\[link to article\]](#)

2012

- * Nunes AF, Amaral JD, **Lo AC**, Fonseca MB, Viana RJS, Callaerts-Vegh Z, D'Hooge R, & Rodrigues CMP (2012). TUDCA, a bile acid, attenuates amyloid precursor protein processing and amyloid- β deposition in APP/PS1 mice. *Molecular Neurobiology* **45**: 440-454. IF: 5.735

[\[link to article\]](#)

Communication Skills

Oral Presentation

2017

- * Oral Presentation at NCCR-Synapsy Annual meeting 2017, Villars, Switzerland
Briz V, Restivo L, Pasciuto E, Juczewski K, Mercaldo V, **Lo AC**, Baatsen P, Gunko NV, Borreca A, Girardi T, Luca R, Nys J, Poorthuis R, Mansevelde H, Fisone G, Ammassari-Teule M, Arckens L, Krieger P, Meredith R & Bagni C. Absence of the long non-coding RNA BC1 disrupts spine morphology and plasticity leading to behavioral deficits.

2011

- * Oral Presentation at 1st LIND seminar (Leuven research institute for neurodegenerative disorders), Bierbeek, Belgium

Lo AC, Viana RJS, Nunes AF, Fonseca MB, Callaerts-Vegh Z, De Strooper B, Rodrigues CMP, & D'Hooge R. Treatment with tauroursodeoxycholic acid modulates γ -secretase activity and rescues memory deficits in APP/PS1 mice, an AD mouse model.

- * Oral Presentation at MEMOSAD symposium. AD/PD International Conference on Alzheimer's and Parkinson's disease, Barcelona, Spain

Lo AC, Viana RJS, De Strooper B, Rodrigues CMP, & D'Hooge R. Chronic treatment with tauroursodeoxycholic acid ameliorates deficits in APP/PS1 mice, a mouse model for Alzheimer's disease.

2010

- * Oral Presentation at MEMOSAD symposium. FENS Forum of European Neuroscience, Amsterdam, The Netherlands

Lo AC, & D'Hooge R. Reversible changes in neurocognitive performance and hippocampal synaptic plasticity in tau mutant mouse lines.

Poster Presentation

2017

- * Poster Presentation at NCCR SYNAPSY Annual Meeting 2017, Villars, Switzerland

Lo AC, Rajan N, Fernández E, Fiers M, Achsel T, & Bagni C. Role of the Fragile X Related Protein 2 and BDNF-TrkB signaling pathway in epileptogenesis

2016

- * Poster Presentation at Society for Neuroscience, San Diego, USA
Briz V, Restivo L, Pasciuto, Juczewski K, Mercaldo V, Baatsen P, Gunko N, Borreca A, Girardi T, Luca R, Nys J, **Lo AC**, Poorthuis R, Mansevelde H, Fisone G, Ammassari-Teule M, Arckens L, Krieger P, Meredith R, & Bagni C. Absence of the non-coding RNA BC1 disrupts spine morphology, experience-dependent plasticity and learning
- * Poster Presentation at NCCR SYNAPSY Conference, Geneva, Switzerland
Rajan N, **Lo AC**, Fernández E, Fiers M, Achsel T, & Bagni C. Genome-wide identification of functional neuronal activity-dependent FXR2P targets

2015

- * Poster Presentation at 1st Summer School on Emotional Learning and Memory in Health and Psychopathology, Leuven, Belgium
Lo AC, & Vervliet B. Selective fear conditioning: invariance towards extinction retrieval manipulations

2014

- * Poster Presentation at 9th FENS Forum of European Neuroscience, Milan, Italy
Latif-Hernandez A, Callaerts-Vegh Z, Ahmed T, **Lo AC**, Vinken K, Balschun D, & D'Hooze R. Hippocampal activity modulation by medial prefrontal cortex ablation.

2013

- * Poster Presentation at Annual meeting of the European Radiation Research Society, Dublin, Ireland
Verreet T, Quintens R, Neefs M, Leysen L, Van Aerschot L, **Lo AC**, Baatout S, D'Hooze R, Moons L, & Benotmane M. Neurobehavioral effects of prenatal low and moderate doses of radiation in the young adult mouse.
- * Poster Presentation at Annual meeting of the Society for Neuroscience, New Orleans, USA
Lo AC, Callaerts-Vegh Z, Rodríguez CMP, & D'Hooze R. Tauroursodeoxycholic acid (TUDCA) supplementation prevents cognitive impairment and amyloid deposition in APP/PS1 mice.
- * Poster Presentation at AAIC Alzheimer's Association International Conference, Boston, USA
Dionisio PA, Amaral JD, **Lo AC**, D'Hooze R, & Rodríguez CMP. Short-term treatment with TUDCA modulates amyloid precursor protein processing in APP/PS1 mice.

2012

- * Poster Presentation at 2nd LIND seminar (Leuven research institute for neuroscience & disease, Mechelen, Belgium)

Van der Jeugd A, **Lo AC**, Belarbi K, Hamdame M, Blum D, Buée L, & D'Hooge R. Behavioural effects of selenium in mouse models of Alzheimer's disease.

- * Poster Presentation at 12th International Stockholm/Springfield symposium on advances in Alzheimer's disease, Stockholm, Sweden

Van der Jeugd A, **Lo AC**, Belarbi K, Hamdame M, Blum D, Buée L, & D'Hooge R. Behavioural effects of selenium in mouse models of Alzheimer's disease.

2011

- * Poster Presentation at ICAD International Conference on Alzheimer's Disease, Paris, France

Nunes AF, Fonseca MB, Viana RJS, **Lo AC**, De Strooper B, D'Hooge R, & Rodrigues CMP. TUDCA, a bile acid, attenuates amyloid beta deposition and rescues memory deficits in APP/PS1 mice.

- * Poster Presentation at 1st LIND seminar (Leuven research institute for neurodegenerative disorders, Bierbeek, Belgium)

Ahmed T, Faldini E, Van der Jeugd A, **Lo AC**, De Strooper B, D'Hooge R, & Balschun D. Hippocampal synaptic plasticity and metaplasticity in an APP/PS1 mouse model in vitro.

- * Poster Presentation at 9th Bi-annual meeting of the Belgian Society for Neuroscience, Leuven, Belgium

Lo AC, Viana RJS, De Strooper B, Rodrigues CMP, & Balschun D. Chronic treatment with tauroursodeoxycholic acid ameliorates deficits in APP/PS1 mice, a mouse model for Alzheimer's disease.

- * Poster Presentation at AD/PD International Conference on Alzheimer's and Parkinson's disease, Barcelona, Spain

Viana RJS, Nunes AF, **Lo AC**, Fonseca MB, De Strooper B, D'Hooge R, & Rodrigues CMP. Modulation of Amyloid-Beta burden-mediated learning and memory defects: role of in vitro and in vivo assemblies.

- * Poster Presentation at AD/PD International Conference on Alzheimer's and Parkinson's disease, Barcelona, Spain

Lo AC, Viana RJS, De Strooper B, Rodrigues CMP, & D'Hooge R. Chronic treatment with tauroursodeoxycholic acid ameliorates deficits in APP/PS1 mice.

2010

- * Poster Presentation at 7th FENS Forum of European Neuroscience, Amsterdam, The Netherlands

Lo AC, Blum D, Buée L, & D'Hooge R. THY-Tau22 mice show facilitated extinction learning in a hippocampus-dependent learning task.

Computer/Software skills

Behavioral analysis software

Ethovision, ANY-maze, Graphic State, Avisoft

Programming

R, MATLAB, Python, C++

Data analysis

R, Excel, SAS, SPSS

Data visualization
Document layout
Web development

R, Excel, GraphPad Prism, MATLAB
L^AT_EX, Word, Powerpoint
html5, CSS

Languages

Dutch **Mothertongue**
English **Advanced**
French **Moderate**
German **Basic**

Fluent reading, writing, and speaking
Moderate words and phrases only
Basic words and phrases only

Interests

- Piano
- Running

- Chess
- Squash